

Claims

- [c1] 1.A system for monitoring a plurality of turbines, comprising:
at least one turbine;
at least one combustion dynamics monitoring device, in communication with the at least one turbine, wherein the at least one combustion dynamics monitoring device is operable to measure the pressure within at least one combustion chamber of the at least one turbine; and
at least one fleet server, wherein the at least one fleet server is in remote communication with the at least one combustion dynamics monitoring device, and wherein the at least one fleet server is operable to generate a graphical display illustrating the operational status of the at least one turbine.
- [c2] 2.The system of claim 1, further comprising at least one turbine monitoring device, in communication with the at least one turbine, wherein the at least one turbine monitoring device is operable to monitor non-pressure related information associated with the at least one turbine.
- [c3] 3.The system of claim 2, wherein the at least one fleet

server is in communication with the at least one turbine monitoring device, and wherein the at least one fleet server receives the non-pressure related information from the at least one turbine monitoring device.

- [c4] 4.The system of claim 1, wherein the graphical display generated by the at least one fleet server illustrates the pressure within the at least one combustion chamber of the at least one turbine.
- [c5] 5.The system of claim 4, wherein the graphical display generated by the at least one fleet server simultaneously illustrates the pressure within the at least one combustion chamber of a plurality of turbines.
- [c6] 6.The system of claim 1, wherein the at least one combustion dynamics monitoring device is further operable to generate frequency information revealing acoustic vibrations in the at least one turbine.
- [c7] 7.The system of claim 6, wherein the frequency information comprises the maximum pressure within each of the at least one combustion chamber of the at least one turbine.
- [c8] 8.The system of claim 6, wherein the frequency information reveals acoustic vibrations in the at least one turbine in a plurality of frequency bands.

- [c9] 9.The system of claim 8, wherein the plurality of frequency bands exist within the frequency ranges of 0 to about 3200 Hertz.
- [c10] 10.The system of claim 1, wherein the graphical display generated by the fleet server identifies the combustion chamber having a maximum pressure value measured by the at least one combustion dynamics monitoring device.
- [c11] 11.The system of claim 1, wherein the graphical display generated by the fleet server further comprises the site location of the at least one turbine.
- [c12] 12.The system of claim 1, wherein the at least one fleet server is accessible by users via the Internet.
- [c13] 13.A method for monitoring a plurality of turbines, comprising:
using at least one combustion monitoring device to monitor the pressure within at least one combustion chamber of at least one turbine;
communicating the monitored pressure to at least one fleet server in communication with the at least one combustion monitoring device; and
displaying, using the fleet server, the operational status of the at least one turbine.

- [c14] 14.The method of claim 13, further comprising the step of using at least one turbine monitoring device to monitor non-pressure related information associated with the at least one turbine.
- [c15] 15.The method of claim 14, further comprising the step of receiving, at the at least one fleet server, the non-pressure related information.
- [c16] 16.The method of claim 13, wherein the step of displaying comprises displaying the pressure within the at least one combustion chamber of the at least one turbine.
- [c17] 17.The method of claim 13, wherein the step of displaying comprises simultaneously displaying the pressure within the at least one combustion chamber of a plurality of turbines.
- [c18] 18.The method of claim 13, further comprising the step, performed by the combustion dynamics monitoring device, of generating frequency information revealing acoustic vibrations in the at least one turbine.
- [c19] 19.The method of claim 18, wherein the step of generating frequency information comprises identifying the maximum pressure within each of the at least one combustion chamber of the at least one turbine.

- [c20] 20. The method of claim 18, wherein the step of generating frequency information comprises identifying acoustic vibrations in the at least one turbine in a plurality of frequency bands.
- [c21] 21. The method of claim 20, wherein the plurality of frequency bands exist within the frequency ranges of 0 to about 3200 Hertz.
- [c22] 22. The method of claim 13, wherein the step of displaying comprises displaying the combustion chamber having a maximum pressure value measured by the at least one combustion dynamics monitoring device.
- [c23] 23. The method of claim 13, wherein the step of displaying comprises displaying the site location of the at least one turbine.